

# NAVY MEDICINE

January-February 1988





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**Editor**  
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# NAVY MEDICINE

Vol. 79, No. 1  
January-February 1988

## From the Surgeon General

- 1 An Extra Dimension of Care

## From the Commander

- 2 A Look Ahead

## Department Rounds

- 4 Back Care Education  
*CDR S.G. Jillson, MSC, USN*

- 5 Practice Pays Off for Iwakuni's SAR Corpsmen  
*B. Doughty*

## Features

- 6 What We Should Be Telling Our Petty Officers  
*LCDR J.A. Lundy, MSC, USN*

- 9 Navy Emergency Medicine  
*CDR G. Lammert, MC, USN*

## Education and Training

- 13 Field Medical Service School: Training a Different Kind of Corpsman  
*J.K. Herman*

- 22 Medical Department LMET: The Pay-Offs  
*LCDR L.T. Mercer, MSC, USN*  
*LCDR C.B. Mount, NC, USN*

## Bethesda Consultant's Corner

- 24 Multiple Applications for Tissue Expanders  
*LT G. Ross, MC, USNR*  
*CDR M.P. Vincent, MC, USN*

## Professional

- 26 Shipboard Epidemiological Investigation of Intestinal Salmonellosis  
*CDR M.L. Dembert, MC, USN*  
*LT A.L. Sorensen, MSC, USN*  
*HM1 J.D. Perez, USN*  
*LCDR R.M. Garrigues, MSC, USN*  
*CDR A.L. Bourgeois, MSC, USN*  
*J.G. Morris, Jr., M.D., M.P.H.&T.M.*

## To the Editor

- 29 Letters

**COVER:** Holding on for dear life, a student litter bearer emerges from the mud with some help from a nearby tree. Training corpsmen to serve with the Fleet Marine Force is the job of the Field Medical Service School, Camp Lejeune, NC. Story on page 13. Photo by HM3 Scott McDonald, Naval Hospital, Camp Lejeune, NC.

# An Extra Dimension of Care

Each of us is familiar with the professional medical requirements of our job, the standards and quality demanded of us as we practice medicine in the challenging 1980's environment of the Navy and Marine Corps. Whether surgeon, nurse, or corpsman, we know what is expected of us when it comes to procedure, excellence, and results.

We are equally familiar with another dimension to the care we administer, which is more the art than the science. It is an aspect of human relations which each of us must make special effort to practice. You have heard me talk about the importance of caring as an integral element of medical care and how we must do better at treating the human needs of people as well as their diseases and infirmities. There is a particular subset of that caring to which we must be *especially* sensitive, and that is in the treatment of family members of the forces afloat and the Fleet Marine Force whose sponsors are far from home.

It is essential that we understand the severe stresses most of them experience in trying to handle the responsibilities of a family by themselves, often in a strange new environment, and certainly without the main personal and psychological support provided by their faraway loved ones. The servicemember's wife who comes to us for care inherently has greater challenges in her everyday life than the average person whose family is together.

While many people in our mobile military society are under different stresses brought on by the demands of our profession, those who come to us for care when their sponsor is in the Arabian Gulf, eastern Mediterranean, or western Pacific have the need for an extra measure of understanding and human support. That is not to say that we should not treat everyone who comes into our facilities with kindness and sensitivity, an area we can clearly do

better and in which we must do better. At the same time, we must recognize that some of our patients need a greater measure of personal and emotional care as well as the treatment for which they came to us. Our civilian colleagues in medicine have found ways to be more thoughtful and considerate of their patient populations in order to improve their balance sheets and census. We have a much stronger motivation, both as Navy people and as part of the Medical Department.

If there is to be any credibility to the superb tradition that "the Navy takes care of its own," we must provide our very important share of it when needed. Unlike civilian medicine, those we serve are members of our extended family, our professional family which shares danger, hardship, family separation, and the other aspects of military life. Our bond with them is a strong, voluntary, important human bond which transcends balance sheets and accounting ledgers. In the final analysis, it is what we have all signed on for.

In the 1990's just ahead, the Navy and Marine Corps face another challenge in which each of us have a role. The competition to obtain and retain good people will be the most severe in modern times. One of the things which cause good people and good families to leave the service is the belief based on experience that people don't care about them as individuals. While this is not only a Medical Department problem, we do provide one of the services in which individual caring is a vital part. It is one of the things which makes military medicine different from any other kind, and not something which can be successfully mandated. Each of us must feel from within the obligation, the importance, and the necessity of something which is clearly the right thing to do.

VADM James A. Zimble, MC



# A Look Ahead

**T**he new year offers a combination of challenge and hope for Navy medicine of which we must take full advantage. There are many pressing problems still ahead of us, but we have also made several breakthroughs which are important for our future. A large budget item has been approved for the hire of contract health care staff, and six new NAVCARE clinics add to our primary care capability and will free hospital practitioners to handle the more complex workload. An important gain is recognition on the part of Navy and Marine Corps leadership and our own individual Navy/Marine Corps family members of what our shortages are, why they exist, and what we are collectively doing to fix them.

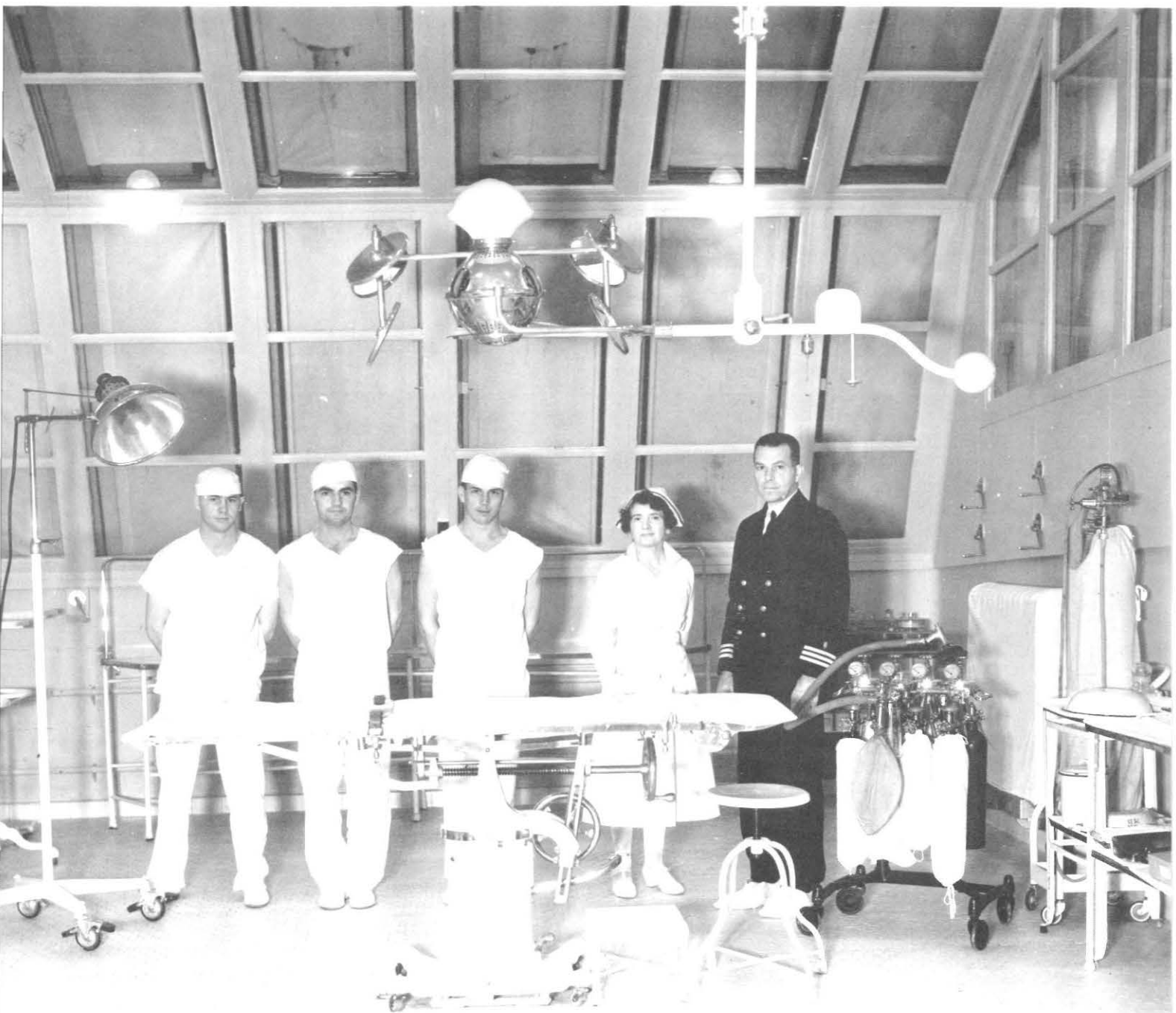
We must continue to educate our colleagues and our patients in 1988 as an important item of priority. It is evident that we have the strong support of the Secretary of the Navy, the Chief of Naval Operations, and the Commandant of the Marine Corps, as well as other senior operational commanders who rely so heavily upon us for both peacetime and wartime support. The need to create the balanced patient load, training base, and graduate medical education programs that we require to ensure our capability and viability in any contingency are becoming increasingly well recognized. Our need for additional people, and to maximize the people we have by fully supporting our providers so they may spend maximum time with patients is also becoming clear.

Things are beginning to look up, and we must continue to work at it at all levels to ensure that they do. There is an important role for each member of the Medical Department in this process, especially in 1988. The general part of that role is to become "George," in the sense of "Let George do it." The best solutions can be found at our own hand and in our own organization in most cases. We need rededication to the concept of looking for the best way and doing it ourselves. While there are many situations to which this applies, one of the most important is in seeking the solution to our pressing need to bring good people into the Medical Department in both the Regular Navy and the Naval Reserve.

If every person within the Medical Department were to find a single qualified individual during the next 2 years, and bring that person into either the Regular or Reserve component of Navy medicine, we would be a long way toward the solution of our most pressing problem. The real point is that each one of us, regardless of rank or rate, have a personal and individual responsibility which in the final analysis is key to the success of the Medical Department. It is one of our greatest challenges to optimize our enormous pool of talent. We must, however, start by doing our best individually. I promise you my best effort, and know that I can depend upon yours.

RADM Joseph S. Cassells, MC





*Navy medicine 1936: Operating room team, USS Relief.*

# Back Care Education

Right: CDR Jillson demonstrates a point using a model spine and (below) works with students in class, as they practice lifting techniques.



Curtis Brown, chief yeoman at the Navy Management Systems Support Office, Naval Air Station, Norfolk, fills out a questionnaire to test his knowledge of proper back care. The answers are then discussed among the group.

With few exceptions, back disorders are the accumulation of months or even years of poor posture, faulty body mechanics, stressful living and working habits, loss of flexibility, and a general lack of physical fitness. By middle age, almost everyone has felt some form of back pain. Much time, effort, and money have been spent on treating these back injuries after they have occurred. More recently, there has been strong emphasis on prevention. Effective education is the key, but *self-responsibility* and the *desire* to have a healthy back play the most important roles in prevention.

Low back problems constitute approximately 54 percent of the Navy's noneffective days that are attributable to illness and/or injury. In response to this significant statistic, the Navy has implemented a back care prevention program as part of the Health and Physical Readiness Pro-



gram. Additionally, OPNAV Notice 5100 of May 1986 addresses further responsibility for commanding officers of 500 or more personnel with respect to back injury prevention.

Naval Medical Clinic, Norfolk is supporting this effort by providing a 4-hour back care class for patients within the physical therapy department and by providing 1½ hours of inservice training to fleet personnel, upon request, for preventive measures.

CDR Susan G. Jillson, head of the physical therapy department, recently conducted a class for her patients. The goals of the class are to make individuals more aware of the anatomy associated with low back problems, the appropriate methods for using their backs in posture and body mechanics, and various exercises for prevention. This is intended to decrease the incidence of low back pain and to improve the mission readiness for the Navy and, most importantly, provide for healthier living.

A physical therapist with 15 years experience, CDR Jillson conducts these classes monthly utilizing a variety of teaching techniques (slides, demonstrations, discussions, and practice) to ensure the highest level of understanding. "A high percentage of the incidences of low back pain are caused by situations that we, ourselves, have control over," CDR Jillson emphasizes. "The care of our back is each individual's responsibility."

Individuals are eligible to participate in the class if they are a patient receiving physical therapy services for their low back, or if they receive a referral specifically for the class from a military health care provider.

For more information contact: CDR S.G. Jillson at Autovon 565-1010 or Commercial (804) 445-1010. □

—Story by CDR S.G. Jillson, MSC. Photos by PH3 Joan M. Zopf.

# Practice Pays Off for Iwakuni's SAR Corpsmen

**T**raining for Search and Rescue (SAR) hospital corpsmen in Iwakuni is constant, challenging, and rigorous, but it pays off. It paid off when two SAR corpsmen saved the life of a patient evacuated at night by helicopter from USS *Towers*.

SAR teams had only recently practiced the art of hoisting from the air directly over a ship or boat, according to HM3 Steven Streich, one of the corpsmen involved in the lifesaving

operation. He and HM2 Mike Coles credited their training to the smooth rescue of the patient, who is now recovering and in good condition.

"It was about 2230 when we finally launched," said HM3 Streich. "It was very poor visibility. It was kind of an eerie feeling when you looked out the window and all you could see was the reflection of the anti-collision lights. It took 45 minutes to get there, and we were vectored in, directed in from dif-



SAR corpsmen HM2 Coles and HM3 Streich

ferent towers," he said.

The pilot, copilot, crew chief, rescue swimmer, and two SAR corpsmen all worked together as a team—just as they had during almost daily training exercises. The patient was hoisted up and brought inside and HM2 Coles and HM3 Streich went to work.

According to HM2 Coles, "When we got there it was a little more serious than we thought it was. While Streich did the vital signs I checked the patient's record. We noticed that the patient's oxygen bottle was low, so we changed it on the way back. We re-established his IV and worked at stabilizing him till we could get back to the clinic."

Later, back at the clinic, the doctors told the two SAR corpsmen that if they hadn't rescued the patient, he probably would have died.

When not training for lifesaving missions or standing search and rescue duties, Iwakuni's SAR corpsmen work in the branch medical clinic and support the staff there. Serving the clinic as SAR corpsmen are HM3 Buckelew, HM3 Palmer, HM3 Forburger, HM3 Streich, HM2 Ferguson, and HM2 Coles.

HM2 Coles likes what he does as a SAR corpsman. "This is the greatest way to go. There's personal achievement, personal accomplishment, and there's a lot of responsibility. And, there's always something different."

HM3 Streich, who worked on a volunteer rescue squad in his hometown, joined the Navy to become a SAR corpsman. He worked on a hospital ward for 15 months at his first command, then served aboard the aircraft carrier USS *Carl Vinson*, where he fell in love with aviation.

Training in SAR exercises involves flying, swimming, and various emergency rescues—day and night. "We had just started practicing rescues from a vessel," said HM3 Streich. "When we were training, people kept saying, 'We'll never need to do this.' A week later we *had* to do it," he said. □

—Story and photo by Bill Doughty, USNH Yokosuka, Japan.

# What We Should Be

LCDR J.A. Lundy, MSC, USN

**P**erhaps the most rewarding privilege a naval officer in the Medical Department has is the privilege to promote a hospitalman or a dentalman to the rank of petty officer. Whether the ceremony is large or small, private or at a formation, from that day forward, in the eyes of

the armed forces, that individual is viewed and held accountable as a military leader. Additionally, we as officers also incur the responsibility to tell our new petty officers exactly what is expected of them as leaders at our respective commands. We should do this immediately and, whenever possi-



Art by Moses Jackson



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# Telling Our Petty Officers

ble, continue to reinforce, that as petty officers, they occupy the most important rank grouping in the naval service. This article deals primarily with what we as officers and commanding officers should be saying to our petty officers about conducting themselves as leaders.

## To the Petty Officer:

Because I consider your performance to be essential to the success of this command and to the Medical Department, I want you to be aware of my policies and expectations of you as a petty officer in the United States Navy.

You are to consider yourself, first and foremost, a leader. You should clearly understand your accountability to this command, your accountability to your subordinates, and your accountability to the responsibilities of your position. The key to your leadership is development—development of yourself both professionally and personally, and your responsibility in the development of your subordinates. Don't waste your talents. You owe it to yourself, your family, your service, and your country to challenge your own capabilities and the capabilities of those you lead.

I do not expect your leadership role to be easy. I expect, in fact, it will be hard work requiring study, common sense, and a willingness to learn. You must learn effective leadership by practice and by trial. Keep the welfare of your sailors foremost in your mind and you will always be on the right track.

I expect loyalty to this command. This does not mean I want you to be a rubber stamp. I know there will be times that you will differ on a particular issue or course being contemplated by your superiors. When this happens,

my advice to you is to present your view and recommend action as precisely as you can. Don't sit back; state your case. However, if the decision differs from your advice, you must back that decision as if it were your own. You are a professional in the military and anything less on your part is considered unprofessional performance and is not acceptable. You owe your superiors no less.

As a petty officer, you will be required to make many decisions. Don't be afraid to make decisions for fear only that you may be wrong. You are going to make mistakes; that is expected and part of the growing process in leadership and life. Correction of those mistakes by your superiors in no way implies you are deficient nor should it. Learn from your mistakes, try not to repeat them, and move on. Likewise, when you are in error and you know it, please don't be afraid to admit it. Your reputation is not going to be eroded by having the courage to acknowledge that you have made a mistake. In fact, just the opposite is true. Your reputation will be enhanced, for it marks you as a mature professional.

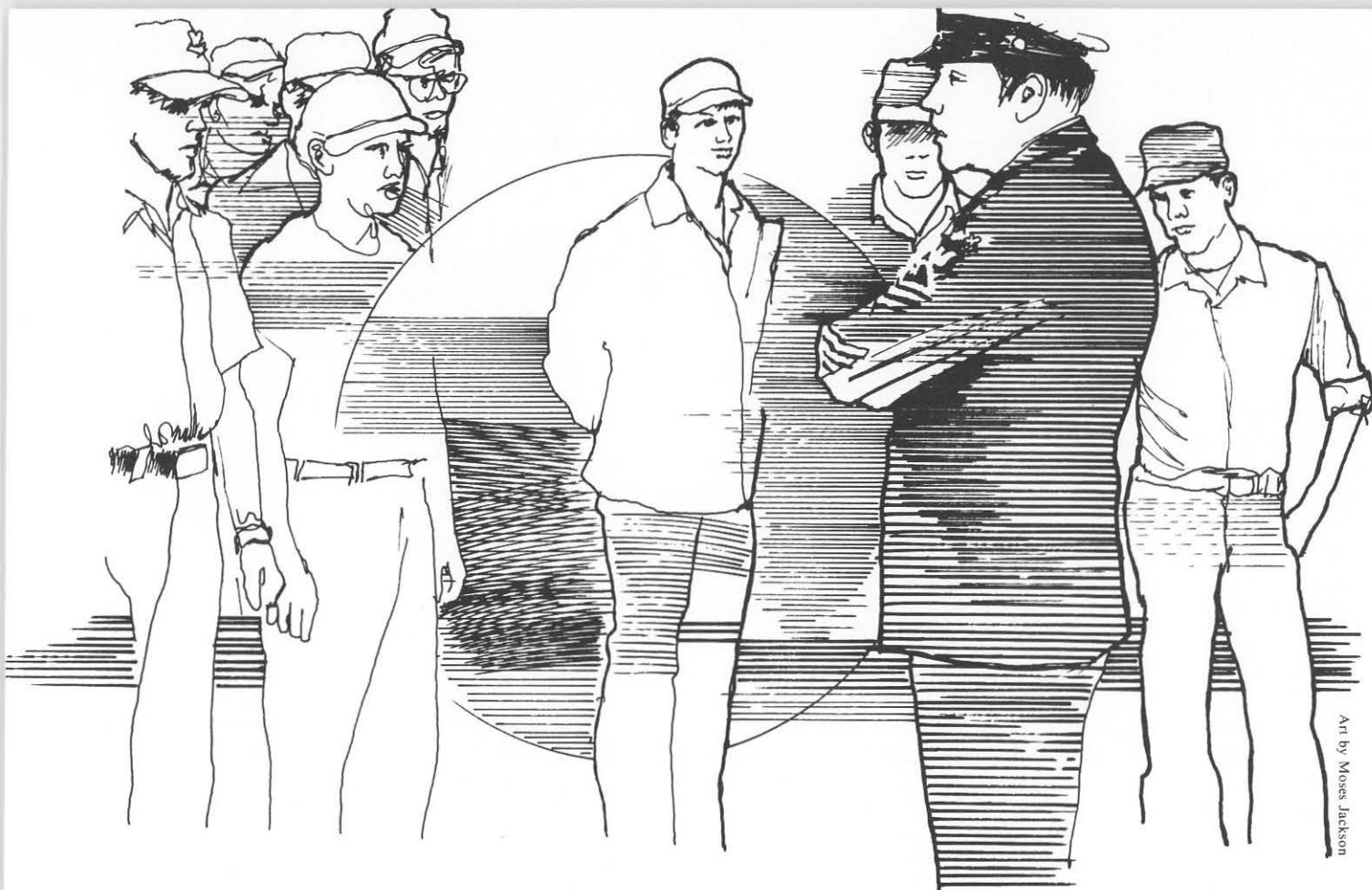
Demand performance from your sailors without being abrasive or sarcastic. Teach your subordinates all you can without belittling or embarrassing them. If you see one of our sailors not making the grade in comparison to his shipmates and peers, find a way to help him or her in such a way that they can retain their self-respect. Praise your sailors openly, but when you have to counsel or reprimand, do it privately. Also, there is no need to swear at or curse your subordinates, it will only make a bad situation worse and it can break a good sailor's spirit. Lead aggressively, but lead with

solid command, quiet control, dignity, and composure.

Know your sailors, and know their problems, but above all else do what is necessary to help a shipmate when he or she does have a problem. I don't want any of our people to get into trouble because we as leaders failed to take appropriate action. This particularly applies to problem drinking and involvement with drugs. If we let a sailor drift when we know that a problem exists, his or her failure will in all reality be our failure as leaders.

You are a petty officer now. Don't ever fear using your rank when you have to. I will back any undertaking that works to increase cooperation with your subordinates. However, there is no doubt in my mind that there will be occasions when your subordinates will either by design or unintentionally test their relationship with you by saying or doing something that poses a challenge to your position and authority as a petty officer. When this happens, you must react as a petty officer, not as a friend or buddy. You cannot show favoritism or allow subordinates to undercut your authority. There will be instances when you will have to rely solely on your authority as a petty officer to cause a necessary action or behavior. Again, don't fear using your rank. As a petty officer you can issue lawful orders; never doubt that I will back you in this regard.

Also, please keep in mind just how important it is to have and project a positive attitude. Show me a successful petty officer and you can be certain that that individual has a positive attitude. As a petty officer, you must in thought, spirit, and deed display at all times a sense of pride and professionalism in whatever task you are charged with. A positive attitude will not in



itself always assure success but I have no doubt that a negative attitude will always assure failure.

Your leadership as a petty officer will be a function of your own personality and individual style. Some styles are more dramatic than others, and that's fine; you will find your own style in time. Still, there are certain basic guidelines any good petty officer should follow, regardless of the amount of natural leadership ability or charisma he or she is blessed with. Here are some one-liners that you should try to keep in mind. A petty officer:

- Must care for those he leads, willing to listen to their ideas and ever sensitive to their problems.
- Never asks his shipmates to do anything he would not do in their position.
- Metes out reward and discipline fairly, without regard to personal favoritism.
- Is physically and morally fit. He maintains high standards of personal appearance but is not obsessed with them.

- Never loses his composure.
- Maintains his sense of humor.
- Delegates tasks but not all responsibility. He makes every possible effort to balance work requirements so that all hands, including himself, carry an equitable share.
- Motivates; he does not try to intimidate.
- Accepts blame when his subordinates err and credits their efforts, rather than himself, when his work area excels.
- Is not obligated to explain his decisions and commands to his subordinates, but does so whenever possible to help them understand their duties.
- Does not seek to be liked. He earns respect, and he must show his sailors as much respect as he expects to receive.

These short guidelines equate to a simple rule of leadership; lead others as you would want to be lead.

A final thought to you as a petty officer. Your responsibility as a military professional and as a leader is to meet the challenges placed before you.

You must fully accept the trust and confidence placed in you by your service and your country. To honor that trust and confidence you must demand accountability of yourself and your subordinates. You must have the courage to act on your convictions and the common sense to judge wisely. Finally, to you has been entrusted the responsibility for teaching our junior personnel the essential fundamentals that give foundation to the pride, professionalism, sacrifice, and dedication that have been traditionally displayed by Navy medical personnel both in war and peace.

I consider it an absolute privilege to serve with you and am confident of your ability to meet the challenges of being a petty officer in the United States Navy.

#### Reference

Leonard RP: A CO's advice to his NCO's. *Gazette*, May 1983, pp 44-46. □

LCDR Lundy is commanding officer of the Medical Logistics Company, 3rd Supply Battalion, 3rd Force Service Support Group, FMF, Pacific.



# Navy Emergency Medicine

CDR Gary Lammert, MC, USN

**E**mergency medicine specialists work in one of the busiest and most vital access points of medical care. Their expertise in emergency, critical, and primary care make them uniquely applicable to modern Navy medicine. These skills are particularly important for operational and war-time needs.

What is Navy emergency medicine and where is it going?

*It is Saturday evening and there are 19 patients in the emergency medicine department. Three victims from a high velocity motor vehicle accident have just arrived. They join three others in the trauma area. Of the latter, one has a gunshot wound to the left chest. Another is confused, having sustained closed head trauma during an assault. The third is a young female with self-inflicted lacerations to her wrists.*

*The medical area is also humming with activity. Four patients are suffering chest pain; another three have abdominal pain. Two asthmatics are experiencing respiratory distress. A hypertensive retired commander with a headache shows lateralizing neurological findings. The young active duty parents of a lethargic, febrile infant anxiously await the physician. The GYN rooms contain two young females with severe lower abdominal pain, one of whom is hypotensive. Then, one of the patients with chest pain, an active duty senior chief, has a brief episode of seizurelike activity and the monitor displays ventricular fibrillation . . .*

This is the emergency medicine specialist's milieu. Like the operational setting, it can be chaotic both in terms of high patient volume and high acuity of illness. Through a gradual process

of residency training and maturation, the physician hones diagnostic skills to a fine edge. He develops reflex medical management and rapid intervention skills. Moreover, he grows adept at handling multiple life and limb threatening situations with efficiency and acquired equanimity.

## **Emergency Medicine: A Historical Perspective**

The medical specialty, emergency medicine, was born out of a gradual transformation in the health care delivery system. In the early 1960's the public increased its utilization of emergency departments. Frequently, through litigation, patients began demanding improved, quality emergency care. In response to this demand, hospitals changed their coverage of emergency rooms from physicians on call at home to full-time, in-house emergency physicians. Initially, these doctors were medical staff members who were obliged to stand duty in the emergency department as part of their responsibilities. Most felt uncomfortable with

the great variety of acute clinical problems they suddenly encountered. They objected to the increased medicolegal exposure of treating critical patients with whom they had not previously established a physician-patient relationship.

From this situation emerged a group of physicians who developed a special affinity for managing and organizing chaos. They liked the style of practice and patient population. These physicians recognized the need for specialty training in emergency medicine to deal with this unique and highly varied environment.

A number of these like-minded physicians formed the American College of Emergency Physicians (ACEP) and the University Association for Emergency Medicine (UAEM), where academic and administrative ideas were shared and refined.

Encouraged by members of ACEP, the American Medical Association (AMA) sponsored a conference on the education of the physician in emergency medical care. Parameters for



undergraduate, graduate, and continuing medical education needs were identified. In 1975 the AMA approved a formal section on emergency medicine.

In 1976 the American Board of Emergency Medicine filed an application seeking primary board status. Three years later emergency medicine became the 23rd recognized medical specialty with written and oral board examinations. As of March 1986, 3,961 physicians have successfully matriculated through the examination process.

In the late 1970's the Navy realized the usefulness of emergency medicine, and advanced arguments to establish a residency in this specialty. This concept was supported at high levels of the Navy medical community particularly by RADM Joseph S. Cassells, MC, Commander, Naval Medical Command.

Naval Hospital, San Diego was a logical choice for residency training with over 70,000 patient visits each year. This established center for graduate medical education contained superb teaching faculty in virtually every specialty and subspecialty.

The first residency class of four was accepted in 1984 and graduated in 1986 under the successive leadership of CDR Raeber, MC, and CDR M. Mellon, MC. Rapidly gaining respectability under an enthusiastic and aggressive department chairman, CDR Mellon, the senior and junior residents as a group placed sixth in the country on their first and second resident inservice examinations out of 74 emergency medicine residencies in the United States and Canada.

In July 1986, with the support of RADM Cassells, CAPT John Noll, and others, the program was authorized to accept six residents for the incoming junior class. The teaching staff was expanded from five to nine physicians, all emergency medicine board certified or board eligible to augment and expand the educational program. Recently, 11 staff billets have been designated for the training program in San Diego which will



allow for greater opportunities in research and teaching.

Much credit must be given to CAPT Harold Koenig,\* then commanding officer of Naval Hospital, San Diego, and CDR Mellon who worked closely together during the last critical months to bolster physician, nursing, corpsmen, and administrative staff support for this fledgling program. Through their efforts the quality and safety of emergency care was greatly improved and a more effective setting for training was fostered.

As a culmination of this rapid evolution, the program was granted full accreditation by the ACGME Residency Review Committee in September 1986, following only 2 years of initial provisional status. Starting in July 1987 the program increased to 3 years training postinternship. Rotations at two of the county trauma centers, Mercy Hospital and University of

\*Commander, Naval Health Sciences Education and Training Command, Bethesda, MD.

California, afford an excellent experience in the management of trauma patients.

The weekly animal lab under the direction of the program research coordinators, LCDR Charles Brown, MC, and LCDR John Olshaker, MC, USNR, provide a facile tool for emergency medicine's investigational research. As well, it provides an opportunity for refinement of procedural skills for residents and interns under close staff supervision. Weekly Thursday morning conferences have been awarded hour for hour ACEP-approved category one continuing medical education credit.

The Navy's Emergency Medicine Symposium held every summer has become a national, ACEP accredited annual event. This past year nearly 400 military and civilian physicians were in attendance. This enthusiastic and superb conference sets the tone for excellence for incoming intern and resident physicians.





## Current Organization Direction

There are many examples of the new attention and direction given to emergency medical services in recent years within the Navy. RADM James Summit, MC, while commanding officer at

the Naval Hospital, Groton, established one of the first emergency medicine departments with a dedicated full-time staff. RADM Donald Hagen, MC, during his tenure as commanding officer of the Naval Hospital, Camp Pendleton, was representative of the strong guidance, commitment, and support given to the development of an emergency medicine department with the creation of a full-time staff, a rigorous credentialing program, and a comprehensive quality assurance program. Under the direction of RADM James T. Sears, a Southwest Region Emergency Medical Service Committee was established to assist in the standardization and review of pre-hospital and emergency care throughout the region. While in Jacksonville, FL, RADM L. Mantell modernized the prehospital care system and instituted a paramedic training program.

While the quality and dedication of nursing and corps staff has been outstanding, the need for formalized special training for these professionals has been recognized. Already, Navy emergency medicine technician training programs have been established and have matured into some of the best training experiences of their kind in the country. Presently, consideration is being given to the establishment of an Emergency Medicine Paramedic NEC for corpsmen. Consideration, likewise, is being given to the establish-

ment of a critical care/emergency designator for the Nurse Corps.

There appears a growing consensus that this relatively new specialty of emergency medicine should be utilized more in contingency plans. This is a specialty of great productivity that deals with a wide variety of both primary care and emergency problems. The emergency medicine physician is an expert in stabilization, resuscitation, and triage, making him an ideal combat specialist. Past wartime casualty data show that the majority of battlefield injuries are entities that emergency medicine physicians commonly manage. Consequently, emergency medicine specialists are being incorporated into hospital ship and operational field assignments where expertise in these applicable areas can be utilized. As this aggressive young specialty matures and gains senior officers, it is expected to provide vigorous leadership in organizational planning in operational and contingency areas as well as civilian emergency medical care.

In the early 1970's it would have been quite true to state that emergency medicine's aspirations were great, its expectations small. Today, both its aspirations and expectations are great. The emergency medicine physician can contribute greatly to the complex issues of prehospital care, disaster planning, and the multidimensional facets of emergency department administration. The latter includes maintaining state-of-the-art equipment, public relations, risk management, ancillary staff training, credentialing, quality assurance, and JCAH compliance.

Navy emergency medicine specialists are ready, willing, and able to provide their expertise in the direction and system development of both peacetime and wartime emergency medical care. This enthusiastic young physician group is eager to contribute to Navy medicine's principal missions. □

Lt Lee Cornforth



CDR Lammert is emergency medicine program director, Naval Hospital, San Diego, CA 92134-5000.



*Teamwork; It may not be the flag raising at Iwo Jima, but for these determined corpsmen the triumph of making it over the top can be just as sweet.*



*Hurry it up men: The obstacle course not only pits students against obstacles but against the clock as well.*





Left: In their forest dressing room, students prepare for the next exercise as they help each other apply camouflage makeup. Above: Home away from home: For 5 days shelter half pup tents offer protection from the early December elements.

# Field Medical Service School

## Training a Different Kind of Corpsman

**F**lash, bang! A searing light, a jarring concussion, and my knees buckle. "Correspondent down over here," someone bellows. "Envicerating gut wound." Instantly, a gaggle of corpsmen, faces smeared with camouflage paint and grime, crouch over me. One deftly folds a battle dressing and ties it around my lower abdomen. Another rolls me on my side as they slip a litter beneath. On the count of three I'm up, on my way to

the rear battalion aid station (BAS). My head rocks to their cadence, and the spindly pines above whirl and blur. Gently they lay me beneath a canvas canopy and someone—corpsman or surgeon—starts an IV and redresses my wound. I feel pressure but no pain.

"Gas attack! Get on your masks!" There is great urgency in this now familiar voice. Those around me struggle to beat the deadly smoke but to no avail. They and their gravely wounded

correspondent are pronounced dead.

Theoretically deceased but nevertheless enlightened, I have glimpsed what brand of care an injured marine might receive in the heat of battle. It is what the Field Medical Service School (FMSS) calls "Field Week," a grueling 5 days that completes the transformation of students into combat ready Fleet Marine Force (FMF) corpsmen. I have come to the sprawling pine forests of Camp Lejeune, NC, at the

invitation of the FMSS's commander, CAPT Jay Lamdin, MSC, to witness the training firsthand.

## FMSS

Historically, it has been the Navy corpsman who has rendered life saving first aid to marines in combat and that tradition has remained unchanged. Back during World War II, the exigencies of national crisis required corpsmen to join combat units almost right out of corps school. Their quickly acquired skills of shock therapy and wound dressing were practiced on the beaches of Guadalcanal, Tarawa, Okinawa, Saipan, Iwo Jima, and countless other battlefields.

The war in Korea changed all that. Four months after North Korean troops crossed the 38th Parallel in June 1950, the Marine Corps Commandant established the Field Medical Service School, its mission "... to train officer and enlisted personnel of the U.S. Naval Medical Corps in the techniques of field medicine and basic military subjects to meet the personnel requirements for the Fleet Marine Force, Atlantic." The FMSS, Camp Lejeune, NC, has a Pacific coast counterpart, the FMSS, Camp Pendleton, CA. Both schools graduate over 2,000 FMF corpsmen each year.

## The Front

Following a bouncy jeep ride to the "front"—the litter obstacle course—my host, CAPT Lamdin, proudly shows me his troops in action. I am frankly surprised by what I see. Sailors that just a few weeks ago were probably manning hospital wards or sick bays in whites are sporting "cammies," web belts, helmets, camouflage makeup, and M-16 rifles. They're not marines, I remind myself, but they sure look like marines.

Four-member litter teams heft simulated patients—in this case 150-pound bags of waterlogged sand—over, around, and through a fiendishly designed obstacle course. Their shouts and animal-like grunts echo through the scrubby forest as instructors alternately cheer or prod

them over log bridges, under menacing grids of barbed wire, across a narrow, vine-covered creek, and up a steep escarpment.

"Lift, pull, lift, pull! Make it happen shipmates! Come on doc, you're drowning your patient," an instructor reminds one team as it momentarily bogs down. Pointing to the quagmire resembling an inky tar pit, CAPT Lamdin notes that just this morning it was clear and almost inviting. An instructor volunteers that he and a colleague embellished the morass by dumping in two bushels of wet leaves. "When they start fermenting, that pit really turns sweet. We do it for the students," he says with an impish grin.

But humor aside, something very serious is going on here, and there is a method to what seems nothing short of aimless torment. These corpsmen are being conditioned to serve with the Marines and that means being prepared to go wherever they go. By definition, the training must be rigorous and unforgiving.

Much will be expected of the FMSS graduate. Even before assignment to a Marine unit, he not only will know what that unit will look like but how it will operate in the field. He will have learned basic combat skills: formations, proper patrolling techniques, how to maintain and fire the M-16 rifle and .45 caliber pistol, the authorized weapon for Navy corpsmen. He will have been introduced to chemical, biological, and radiological (CBR) warfare, and run through Camp Lejeune's infamous gas chamber. The physical and psychological conditioning will enable him to move and look like a marine. In the field, he will be indistinguishable from the men he serves. And that too may help ensure his survival.

Yet "becoming" a marine is only 50 percent of the training. The other half deals with honing medical skills and treating casualties in the field. And that is what makes the FMF corpsman different and very unique. He has a highly specialized job every bit as crucial as the marine radioman, automatic weapons man, or the rifleman. To those marines who have tasted



U.S. Navy Scott McDonald







HMS Scott McDonald



Above left: Litter team fords a cold, muddy stream with a waterlogged, 150-pound sand "patient." Bottom: On the obstacle course, students use their rifles to fend off barbed wire as they crawl toward their objective. Above: With choking, yellow-green smoke creating a surrealistic, misty hell, a corpsman carefully squirrels his way through razor-sharp concertina wire.

*What am I doing here? A dog-tired student catches his breath after a simulated gas attack. Middle: Three corpsmen, running in place, pay the price for leaving their rifles unattended during evening chow. They won't repeat the mistake.*

combat, the "doc" is the guy who will take care of them when they're hurt. He's got the right bandages and knows how to use them.

The course curriculum obviously goes beyond bandaging. The students practice retrieving the wounded under simulated fire, treating, tagging, triaging, and preparing them for evacuation back to higher echelons of care. They learn to function at both forward and rear battalion aid stations.

The transformation into FMF corpsman is dramatic, somewhat traumatic, but by the end of 5 weeks, virtually complete. During the first 2 weeks, the less physically fit drag themselves and their gear about, many wondering how their careers as hospital-based corpsmen took this curious turn. It seems at first like boot camp all over again—reveille at 0500, formation, muster, inspections.

By the third week, after strenuous physical training (PT) and several conditioning hikes lugging 50-pound packs, they notice their stamina improving and, most of all, there is a developing self-confidence. The statistics for this particular class of 160 students are dramatic. The average score on the very first Physical Readiness Test (PRT) was 222. The average score on the second, some 18 days later, was 240. The first test saw 18 failures, the second, only 5.

"We tell them up front that we're not cutting them any slack," CAPT Lamdin points out. "We're pushing them for everything we can get out of them. The results justify that philosophy. They do improve and dramatically." HMCS Carolyn Disparti, one of four women in the class, gleefully recognizes her own accomplishment.\* "When I first started running, I couldn't make it a mile and a half the first week. Now I can go 3 miles with-



out stopping. At first, I asked myself 'What am I doing here?' But now I'm pleased that I can do it. It's self-fulfilling and very gratifying."

According to FMSS executive officer, CDR George Crittenden, "Each class has its own personality. Sometimes we get a really young class where 90 percent come out of corps school. They're mommas' boys, 18 years old and maybe they've never even been boy scouts. They can't pitch a tent; they can't trench it properly and, most likely, they get washed out their first rainy night. We get older classes, guys who haven't done PT in 5 years and they struggle. But eventually they all jell, young or old."

HMCS Disparti's question, "What am I doing here?" is what a good number of corpsmen and dental techs have on their minds when they arrive at Camp Lejeune.\*\*

### How Are Personnel Selected for FMF Duty?

Once the requirement is established, corpsmen are selected from three sources: corps schools ("A" school), naval hospitals, and dental centers.

\*Although women are not assigned to Marine combat units, they do serve in division, group, and Reserve units and are, therefore, authorized to take FMSS training.

\*\*Dental techs, NEC 8707, may also be ordered for FMSS training. Afterward, they are assigned only to dental battalions.



Upon graduation from "A" school, corpsmen may request additional training for a specialized NEC at one of the Navy's "C" schools. Those who do not request "C" school may then be assigned directly to a medical treatment facility (hospital or clinic) or volunteer or be selected for FMF training. Those personnel then report to either of the two FMSS's.

Another source for FMF corpsmen is the Sea-Air-Mariner program. Reservists come on active duty, receive basic training, go on to corps school, and then may be assigned to another advanced school for another 6 months of active duty. Each FMSS class gets 10-20 of these students.

Those FMSS graduates that came directly from corps school usually are assigned to a hospital as their first duty station to get ward experience.





*CAPT Jay Lamdin, commander of the Field Medical Service School, confers with two of his instructors.*



If they came to FMSS from a hospital, upon graduation, they go directly to the FMF. Over time, the system creates a pool of trained FMF corpsmen within the hospital community. If a crisis arises, the personnel will go directly to a Marine division, group, or air wing.

### **Program**

The first step in the conversion is the students' purchase of two sets of camouflage utilities. This is the official uniform during the FMSS course. Additional gear such as the alice pack (backpack), web belt, suspenders, canteen, M-16 and magazines, poncho, poncho liner, shelter half, Unit One (medical kit), gas mask, etc. are issued by the school.

After administration of the initial Navy PRT and a Marine Corps physi-

cal fitness test the first week, everything from then on conforms to Marine Corps standards. Organized PT occurs 3 days a week during the first 3 weeks of class. Toward the end of the third week both physical fitness tests are again administered.

The students spend much of those first 3 weeks in the classroom with a curriculum that interweaves military and medical subjects, with emphasis on the former. Students learn about the FMF organization, USMC/USN rank-rate comparisons, leadership, Geneva Convention-Code of Conduct, medical aspects of amphibious operations, the basics of field communication, combat formations, tentage, land navigation, patrolling techniques, field fortifications, anti-personnel devices, offensive and defensive combat, and small arms. On

day 7 they fire the M-16 on the rifle range.

By day 9 subjects turn medical: injuries to the trunk, treatment of shock, IV fluids, burns, morphine, heat and cold injuries, injuries to the face and neck, injuries to the extremities, orthopedic injuries, combat psych problems, splints and splinting, casualty triage, casualty evacuation, field sanitation, foot care, water purification, waste disposal in the field, combat wounds and injuries, and hearing conservation.

On day 18 the troops march to the field training area for "Field Week." During those long, demanding days they will practice what they have learned in the classroom and absorb the practical skills that will enable them to become part of the Marine Corps team.

*Introducing students to the CH-46 helicopter is a standard exercise during Field Week.*

## Field Week: Let the Games Begin

It is a mud-caked and exhausted crew that returns to the tent bivouac that afternoon following the litter obstacle course. But the consumption of hot evening chow perks everyone up. And just in time, for the evening games are ready to begin.

Promptly at 1800 the students depart for the night compass course, their mission to navigate their way to an assigned objective in the forest.

The following morning, after a "hardy" breakfast of MRE's (meals ready to eat),\* they prepare for the obstacle course. Their state of physical readiness comes into play as they race the stopwatch over and through cable bridges, walls, monkey bars, tire tunnels, up towers, and down a knotted rope. They finish by low crawling under barbed wire and then through a maze of concertina wire, barbed wire's cruelly camouflaged successor that bristles with razor-sharp blades. All this to the tune of M-60 machineguns, mortar and grenade simulators, and green and yellow smoke.

**Downed Pilot Scenario.** One of the most demanding exercises of Field Week is the downed pilot scenario. A life-sized manikin, dressed in a tattered flight suit and provided with a packet of "secret" documents, is hidden somewhere in the expansive woods. With maps in hand and coordinates radioed to them from the central command post, student corpsmen begin their mission—to find, treat, and rescue the unfortunate pilot before he falls into enemy hands or dies of his injuries. Complicating the equation is the addition of "aggressor" forces—other students dressed in desert camouflage, armed with booby traps,

\*This light-weight prepackaged food has replaced the traditional C-ration of bygone days.



HM3 Scott McDonald

M-16's and M-60 machineguns bent on locating and capturing the pilot first. Setting ambushes of opportunity is encouraged.

Everything the students have learned in the classroom and in the field about patrolling, communications, and other military skills comes into play. If ambushed, they must treat and evacuate their wounded, never forgetting the main mission—the rescue of the downed pilot. Even though instructors—either marine NCO's or senior petty officers—go along to observe and critique, the corpsmen lead and make decisions themselves.

After several hours of a simulated combat situation, their confidence increases. And just when they begin to feel more comfortable with using radio, compass, and map, the scenario

takes a new and more threatening turn.

Subtract daylight from the equivalent situation, and you have the night downed pilot scenario. Suddenly, the students must face two obstacles they have never had to contend with during daytime operations—darkness and fear of the unknown. No soldier likes to travel down a pitch-black road at night, rifle at the ready. A snapping twig, the rustle of a squirrel. . . . The ambusher has more than mere psychological advantage over the ambushee.

To witness the true flavor of the operation, CAPT Lamdin and I accompany a patrol on a forest road. It is well past twilight and the winter constellations rise before us, arrayed against a moonless sky of the blackest velvet. Our eyes grow accustomed to the darkness; the trees are ghosts; the



white, sandy road glows with whatever light the stars can spare.

The squad travels in spurts, the squad leader unsure of which turn to take; the men confer in hushed whispers. The marine instructor has seen enough. "Spread out, spread out," he warns. The men stand motionless and bewildered. The sergeant, now growing impatient, goads the leader. "What are you gonna do? You're in charge. You gonna stand here forever?" The patrol moves out grudgingly, bunching up in the road. "Didn't you learn anything in class? One grenade landing here would kill half the squad!"

The students respond and take halting, tentative steps. The moon is rising above the trees now but too dimly to offer much light or comfort. "Where's your security?" the advisor inquires. "What's to keep the enemy from sneaking up from behind and wiping out the whole lot of you? What will you do then, doc?" he gestures toward the squad leader, "You wanna write to someone's mother and tell her her son's dead because you got stupid?"

After accounting for their missing comrades, the squad files down the road strung out in two columns. There is a feeling of impending doom.

A phosphorus grenade hurled in front of us drenches the scene in white, blinding brilliance. It is a welder's torch undimmed by protective goggles. M-16 rifle fire cracks and everyone hits the deck where they are, dark bundles huddled on the white sand. "Ambush front!" someone screams. "Assault through!" It seems the proper thing to do to lie there hugging the road, offering a smaller target. It isn't. Men lying motionless on an illuminated road are easy pickings.

The sergeant is unhappy with his students, but after two more ambushes in the next 30 minutes, they begin to heed the warnings. The firefights and their instructor's critique give pause for reflection. Never far from their minds or mine is the thought that young infantrymen die this way in jungle ambushes somewhere in the world every day. In the next conflict these

corpsmen will be on the line and survival will depend on instant and appropriate response.

Our squad never finds the downed pilot that night, but there are powerful lessons learned out there in the darkness.

## MEDEX

MEDEX, or medical exercises, give the students the opportunity to handle casualties in the field under simulated combat conditions in both daylight and darkness. They divide into two groups, one going into the woods to lie

wounded where they will fall after simulated combat. The other group—the rescuers—await the smoke grenades, simulated mortar, rifle, and machinegun fire that indicate a fire-fight. Cries of "Corpsman up!" and pitiful moans of anguish emanate from the trees and, even as the firing continues, corpsmen, heads down, dragging poleless litters behind them, grimly low crawl toward their fallen comrades. They offer basic treatment and then drag them to safety back to a forward BAS beside the road. There, patients are searched for weapons and booby traps, tagged, triaged, and loaded into field ambulances for transport to the rear BAS.

For added realism, the attentive instructors hurl smoke grenades into the BAS simulating a gas attack. The students have but a few moments to get on their gas masks and continue treating the wounded. The instructors are fair but firm. When one student



*Military instructor, HM1 J.J. Nash, briefs desert camouflage-dressed "aggressors" before the downed pilot exercise and mans an M-60 machinegun as he prepares to lead an ambush against a "friendly" patrol.*



*A determined student evacuates a wounded patient under fire.*

## When You Lose Your Corpsman

What kind of reception can a corpsman expect when he goes FMF, and what does he mean to the men he serves? *Navy Medicine* asked two marines these questions, LCOL Russell Eggleston, Special Operations Officer, and First Sergeant Richard Zink, both stationed at Camp Lejeune, NC.

"We feel very special about our corpsmen," says LCOL Eggleston. "He's the guy we protect because we know he's the one who takes care of us. Marines respect him even more than they do each other. They're all grunts and they're proud, but the corpsman is super special. He has skills that will save their lives and that instills a certain awe. They know he's bright, gutsy, and his whole purpose is to help them.

But the corpsman must realize that that respect is not automatic. He must be tough enough physically and psychologically to stay with them. It's not enough merely to reach the objective. Once there, his job really begins. He has to think, be calm, and override the adrenalin pump to do his job. He has to carry a heavier load. He has to handle stress. He has to monitor the physical condition of his men and advise the patrol leader when their physical limits are being reached. He must stand above yet remain part of the team."

If experience is the best judge of performance, First Sergeant Richard Zink can speak with authority. He owes his life to a

Navy corpsman.

In January 1967 Zink and his company were patrolling a rice paddy not far from Khe Sanh, South Vietnam, when they were overwhelmed by a reinforced regiment of North Vietnamese regulars. Zink was hit in the hip and knee by AK-47 rifle fire and most of his buddies were killed or wounded. The fighting was so furious that two F-4 Phantoms providing close air support were blown from the sky above him.

"We lost our entire company in less than 15 minutes. There were no trees or cover. The corpsmen had to run about 125 meters to get to us, and every time they tried they got knocked down. Six of them lost their lives. That night when the Sun went down those that could crawled the whole distance. Five hours had gone by since I had been wounded. The corpsman who got to me used up his battle dressings and then what was left of my skivvy shirt. When that was gone he used his own shirt to stop the bleeding. Those guys who got to us had to carry out the dead and wounded; there were no marines left to do the job.

They were all magnificent. When it hit the fan they were there. No one could have put anything better on this Earth than Navy corpsmen. I've always felt and I've told my men time and again that when you lose your corpsman, you've lost everything." —JKH







removes his mask to speak, he is reminded that in a real situation such carelessness would mean death. "You take it off again sailor, and we're going to have a 20-minute PT session with it on!" The chastened corpsman and his colleagues nod their understanding and thereafter communicate with hand signals.

At the rear BAS, well back from the fighting, some students provide perimeter security for the BAS while others further treat and triage the incoming wounded. In a real situation, surgeons there would provide additional treatment and patients would be medevaced to a medical battalion, then to a fleet hospital or hospital ship.

As the MEDEX continues for several days with teams reversing roles, students show dramatic progress. Procedures become more automatic. "Once they get their self-confidence and their bearings," points out instructor HMC Kenneth Chapman, "everything they've learned in corps school

and Field Med School falls into place. Those little tape recorders in their heads begin playing back the right information just when they need it."

Day 4 of Field Week sees more MEDEX followed by short briefs and familiarization flights in the CH-46 helicopter, one of the medevac aircraft in the Marine Corps inventory.

"MEDEX Overload" climaxes the afternoon and night of day 4. Instructors create a scenario so authentic and stressful that make-believe and reality become almost indistinguishable.

Ambushes and firefights punctuated by all leftover ordnance turns the forest into an ear-splitting, choking, chaotic hell. Casualties draw upon their best acting skills. Litter and ambulance teams evacuate the wounded to a rear BAS already swamped by casualty overload, only to be set upon by a determined enemy that nearly overruns them. Nurses and surgeons are killed or wounded. Command decisions devolve upon senior, then junior petty officers. Eventually, the defenders repulse the aggressors and the corpsmen themselves reestablish order.

The overload exercise is, in reality, the course's final exam, calling upon the students to demonstrate everything they have learned.

This class has performed well. The instructors are more than satisfied, as is the skipper who has, for this last exercise, enthusiastically played the role of a machinegun-toting aggressor. "Our goal is to teach them in 5 weeks the fundamentals of life support and first-line care of wounded marines," says CAPT Lamdin. "If we can produce a corpsman who is gung ho and ready to go anywhere, we've done our job. Look around. I think we've succeeded." —JKH □

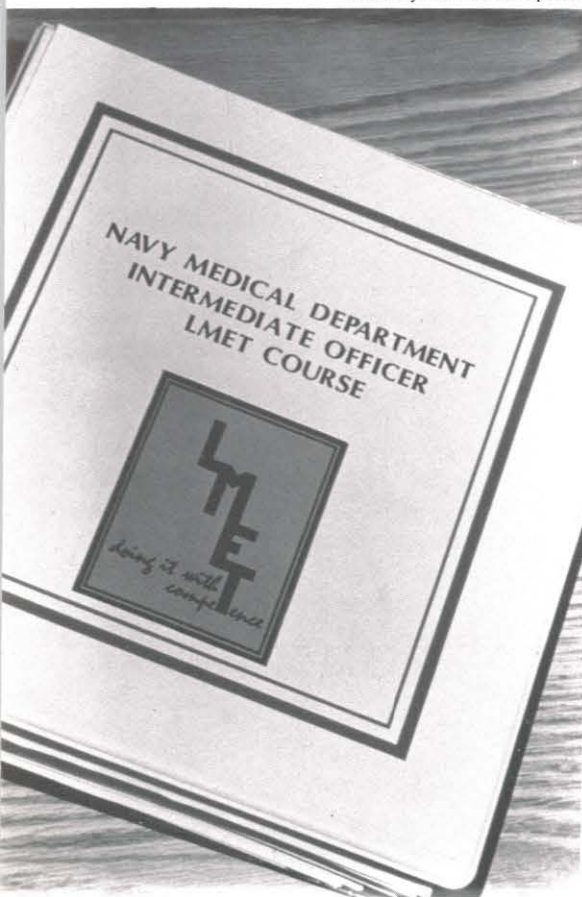


*Finger on the trigger, a vigilant student provides security as comrades load a wounded patient aboard an ambulance at a forward battalion aid station.*

# Medical Department LMET: The Pay-Offs

LCDR Larry T. Mercer, MSC, USN  
LCDR Charles B. Mount, NC, USN

Photos by HM3 Michael Spencer



LMET study journal

People who have not attended our Leadership and Management Education and Training (LMET) courses often ask, "What are the pay-offs for me?" We have found that the pay-offs for the Medical Department and the individual participants are numerous. The most important are the renewed commitment to excellence in patient care and the development of future champions.

As noted in CDR J.M. LaRocco's article,<sup>(1)</sup> the intent of the LMET program is to increase the overall effectiveness of the Medical Department and to develop a system that links training with career progression. (See also Medical Department Career Progression: Flag Officers' Perspectives by CDR J.M. LaRocco, MSC, and E. Kumata, *US NAV MED* 76(2):6-8, March-April 1985.) LMET courses are targeted for specific leadership positions at the fixed medical and dental treatment facilities. Specifically, the commanding officers' course teaches the competencies of the outstanding CO's. The senior officers' course covers the behaviors of the exceptional department heads and directorates, while the intermediate course studies the traits of the outstanding lieutenants through lieutenant commanders who serve in supervisory positions.

To us, the purpose of LMET is to **inform and inspire**. By putting forth a research-based competency model,

coupled with up-to-date management tools and leadership techniques, participants are encouraged to set high standards, demand efficiency, and take pride in what they do and who they are. The emphasis is on **self-assessment**. They are challenged to put lofty concepts into action by setting clear goals and action plans. By taking charge of their sphere of influence, their world becomes more manageable, their results more meaningful.

Based on end-of-course critiques and postcourse feedback, the results of LMET are encouraging. Many graduates report a more positive, goal-driven focus on their career. They feel more confident, alert, and enthusiastic about the future. In many ways this new vitality and direction is a result of the LMET theme: *Do It With Competence*.

The curriculum helps people develop their personal and professional goals into clear, crisp, and persuasive language. They learn influence strategies and motivation techniques for inspiring others. Moreover, they learn ways of coping with job demands and interpersonal relationships. In short, most people leave the course feeling better about themselves and Navy medicine in general.

Perhaps the participants describe best the overall payoffs in their own words:

"Excellent course! I've been spinning my wheels at work. This course has given me the traction to





CAPT George Harris, MSC (left), and CDR Robert Ariman, MSC, "learn how competency is measured."

move ahead and get things done!"

"This course has challenged me to introspect, to draw principles from the exercises, and to think of better ways I can improve back on the job."

"This program challenged me to think about where I am going with my career. Suddenly, I realize 'good leaders' don't just happen."

Although most officers were selected because of their good performance and career potential, many wonder if they have the ability to become more effective leaders. By the end of the course most are confident they *can* lead. The question is, do they *want* to lead? Effective leadership requires an emotional commitment as well as technical skills. Our impression has been that most of us want to improve our skills, yet few of us are willing to challenge our commitment as leaders in Navy medicine.

The participants learn a great deal about themselves, the Medical Department, and their role as military leaders. Our intent is to develop the behaviors, knowledge, and skills that outstanding officers use to enhance high standards of patient care. Although learning new behaviors can be slow—and painfully self-conscious—they make it easier to deal with complex, stressful situations leaders frequently encounter. We have found that those who work hard to *inter-*

*nalize* the competencies get the biggest pay-offs in the course.

What participants like most are the various self-assessment instruments, the mixture of teaching methods such as role plays and case studies, and the opportunity to interact with peers from other corps. From these experiences they realize we are all unique and work in different situations but deal with the same key variables.

For many of us, competency-based instruction is a new approach to professional training. The courses, based on the premise that learning should be fun, feature role plays, case studies, and simulations. The lessons are light on theory and heavy on practical application. Each lesson is chosen to exercise various facets of leadership. We teach that effective leaders get the job done and get job satisfaction for themselves and others as well. Thus, LMET focuses on the product and process of various leadership styles. Each style is evaluated in terms of its potential impact on the command's mission and climate.

LMET courses are designed to draw from the participants' collective experiences. In fact, most people enjoy interacting with members from the other Medical Department corps, quite often for the first time. They learn that the negative stereotypes between the corps tend to be false and counterproductive. They realize most of us have a common bond; we are all committed to the patient. As a result, everyone can contribute a wealth of professional and personal experiences. One physician participant noted: "I used to feel I had to fight against everybody to take care of my patients. I learned that members of the other corps are equally concerned about patient care, and now I realize we must work together for the benefit of our patients."

Another realization for the participants is that higher expectations are placed on us as we progress up the career ladder. We are increasingly held accountable as health care professionals and as military leaders. Excellence in these roles requires an on-going

verification of others' expectations. As Julius Caesar told his officers, "The soldier has a right to competent command." To this we add, sailors have the right to know what is expected of them and how their efforts contribute to the command's mission.

Our competency models focus on attributes more than skills. We recommend commitment and leadership, not as a myth but as a practical model for getting things done. Specifically, LMET prescribes that an outstanding leader must exercise:

- Holding high expectations for self and others.
- Persuading others toward excellence.
- Knowing that nothing works unless you do.

We teach that leadership is based more upon persuasion and consensus, less on position power. Interdependence is the new reality, team building the solution. LMET suggests that to be a better leader:

- Get involved. Be known as a team builder.
- Catch people doing things right, then reward them.
- Observe the outstanding. Compare your behavior to theirs.

Perhaps the most important pay-off of LMET is that our leaders take time from their hectic schedules to consider what it is about their performance that is important to them, to others, and to Navy medicine.

LMET was created as an expression of the Navy's commitment to strong leadership. We are excited about the progress made to date. The future of the LMET program is even more exciting!

## Reference

1. LaRocco JM: Leadership and management. *US Nav Med* 75(2):8-11, March-April 1984. □

LCDR Mercer and LCDR Mount are intermediate LMET instructors at the Naval School of Health Sciences, Bethesda, MD 20814-5033.

# Multiple Applications for Tissue Expanders

LT Glen Ross, MC, USNR

CDR Michael P. Vincent, MC, USN

**T**he concept of tissue expansion has gained increasing acceptance among plastic and reconstructive surgeons. Radovan(1) is credited with the initial development of tissue expanders in 1976. Recently, the Division of Plastic Surgery at Naval Hospital, Bethesda has implanted a number of tissue expanders. This provides an excellent forum to review the indications, and possible applications, for the technique of tissue expansion.

Physicians have been aware of the concept of tissue expansion in their

observation of the expansile nature of the abdominal wall during pregnancy. Tissue expanders take advantage of the skin's and underlying tissue's natural ability to progressively expand over time in the presence of a constant stress.

The modern tissue expander consists of an expander unit, essentially a silicone bladder, which is connected by silastic tubing to a reservoir dome, through which saline is percutaneously introduced. The entire unit is implanted subcutaneously, adjacent to the area of surgical interest (Figure 1).

Every 1-2 weeks infusions of saline are performed on an outpatient basis to gradually expand the bladder and cause the overlying tissues to increase in size. Eventually, enough tissue is created to be used for reconstruction. The following illustrate this process.

## Patient Reports

The plastic surgery clinic saw a 39-year-old active duty white male with a total avulsion of his right ear from an automobile accident. He wanted a "new ear," but there was a deficiency of skin necessary for the reconstruction

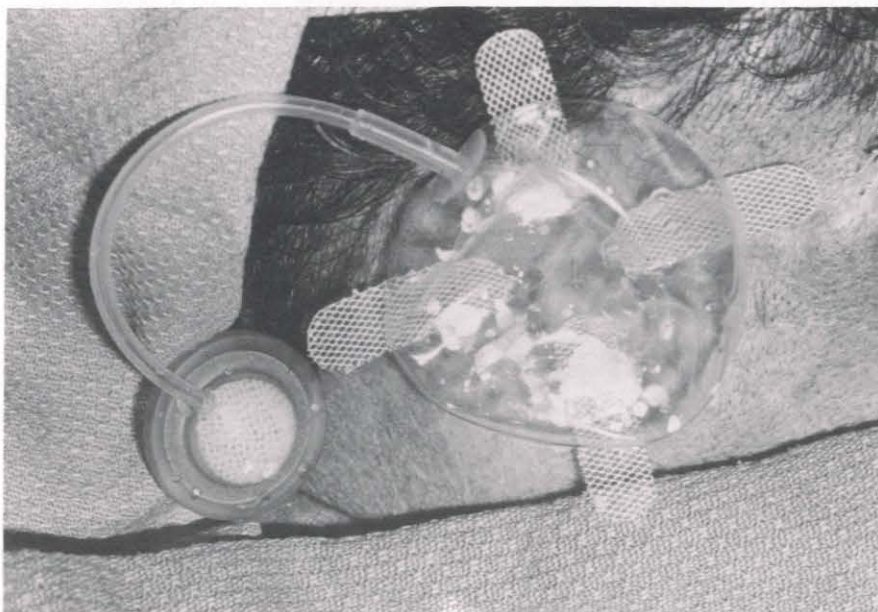


Figure 1. A 50 cc tissue expander showing large bladder with attaching silicone dome.



Figure 2. Preoperative post-traumatic right ear defect with deficient skin.



(Figure 2). He underwent placement of a 50 cc tissue expander with serial expansion of the skin as an outpatient (Figure 3). The ear was then reconstructed with a carved costochondral graft. The final step was the creation of a postauricular sulcus with a full-thickness skin graft which is not shown.

A 29-year-old active duty white male presented to the clinic requesting removal of a large tattoo from the volar aspect of his left forearm. The tattoo was approximately 8 x 13 cm and surrounded by a hypertrophic scar from previous attempts of removal by dermabrasion and tannic acid. Although a split thickness skin graft was considered, it was felt that tissue expansion would provide more natural appearing coverage of the large defect. The patient had an expander placed adjacent to the defect. He returned to the clinic weekly for injections of sterile saline to further expand the tissue. After 6 weeks the tissue had expanded sufficiently for wound coverage purposes. The tattoo was excised, and primary closure was achieved using the expanded normal forearm tissue. The patient did well

postoperatively, and a very satisfactory result was obtained.

## Discussion

Tissue expansion offers a number of highly desirable advantages for skin coverage. It uses the patient's own tissue as donor material, without the need for a separate donor site. Tissue expansion provides coverage with adjacent tissue which is more homogeneous in appearance and provides superior cosmetic and functional results. Skin grafts are also commonly utilized but may result in less desirable results.

Applications for tissue expansion are numerous, and new uses are continuing to be developed. It is especially well suited for small- to medium-sized defects, scalp defects, and breast reconstruction.(2) Tissue expansion is being used with great regularity at Naval Hospital, Bethesda for immediate and postmastectomy breast reconstruction. In burn treatment, it can provide more natural appearing coverage for limited areas. Defects due to high velocity missile wounds and excised melanoma sites are among other applications for the device.

Complications of tissue expansion surgery are infrequent. Hematoma must be prevented by meticulous hemostasis and the occasional use of drains. The formation of a hematoma often necessitates removal. Infection rates are 5-8 percent. Ischemia is a very rare complication, despite the amount of surface tension placed on the overlying tissue. Necrosis can occur, especially in previously radiated sites, but can be limited by deflation of the prosthesis.(3) Complications are greatest when used for defects of the lower extremity.

The advantages of the tissue expander include a superior aesthetic result, short hospital stays, homogeneous skin texture, normal sensation, no other donor sites, and minimal scar formation.(1) The procedure can often be performed under local anesthesia. Potential disadvantages include a prolonged outpatient treatment regimen, multiple surgical procedures, and frequent clinic visits.(1)

## Conclusion

Tissue expansion is a relatively new, exciting treatment modality, which often provides superior results to traditional surgical defect coverage procedures. It has high patient acceptance and a relatively low complication rate. Most patients have little alteration in lifestyle while undergoing tissue expansion. The technique offers an excellent alternative in dealing with difficult skin and wound defects.

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Dr. Ross is physician in charge of Emergency Services, U.S. Naval Hospital, Roosevelt Roads, Puerto Rico. Dr. Vincent is chairman, Division of Plastic Surgery, Naval Hospital, Bethesda, MD 20814-5011.



Figure 3. Tissue expander has been implanted adjacent and retroauricularly. Approximately 50 cc of fluid are contained in the bladder.



Figure 4. Postoperative photo illustrating the placement carved costochondral graft under expanded skin for ear reconstruction.

## *Epidemiology*

# Shipboard Investigation of Intestinal Salmonellosis

CDR Mark L. Dembert, MC, USN

LT A.L. Sorensen, MSC, USN

HMI Julie D. Perez, USN

LCDR Roy M. Garrigues, MSC, USN

CDR A. Louis Bourgeois, MSC, USN

J. Glenn Morris, Jr., M.D., M.P.H.&T.M.

**M**edical readiness is an integral part of the day-to-day work of personnel at Navy Environmental and Preventive Medicine Units (NAVENPVNTMEDU's) in Norfolk, VA, San Diego, CA, Pearl Harbor, HI, and Naples, Italy. Local contingency situations, outbreaks of communicable diseases or occupational diseases, environmental health or industrial hygiene emergencies, and natural disasters give only a moment's notice.

NAVENPVNTMEDU staff in epidemiology, environmental health, entomology, industrial hygiene, and microbiology are available around the clock to respond to such requests from military, government, and civilian (humanitarian) organizations. The most important ingredient to success in assessing and taking effective action in these situations is an immediate request with a timely response. This is best exemplified in a recent situation of foodborne illness that had the potential for affecting several thousand crewmembers on an aircraft carrier (hereafter called *USS Ship* in this article).

NAVENPVNTMEDU No. 2, Norfolk, VA, received a telephone request at 1000 on a Monday morning in 1987 for on-site assistance aboard *USS Ship*. Diarrheal disease had afflicted several crewmembers, and there was concern that many more could become sick. The ship had recently returned from sea and was not scheduled to redeploy for

several weeks. However, the squadrons that had been stationed on board had returned to their home bases and were not available to the medical department of the ship for evaluation or followup of any diarrheal illness.

An investigative team was assembled and reported to the ship by 1330 the same day for briefings by the medical officer and ship's preventive medicine technician (PMT). The team was comprised of CDR M.L. Dembert, MC, team leader and medical epidemiologist; LT A.L. Sorensen, MSC, environmental health officer; HMI J.D. Perez, PMT-epidemiology; and HMI T.J. Koperniak, PMT-environmental health.

The briefings revealed that during the most recent deployment, which did not include any foreign port visits, a large number of crew came to sick call with gastrointestinal complaints including diarrhea, stomach cramps, nausea, and/or vomiting. Only two individuals required rehydration therapy. Most of the illnesses were gradual and not "explosive" (sudden onset of symptoms and large numbers of cases presenting to sickbay at one time).

Prior to this deployment, in port as well as during the previous deployment to the Caribbean, few cases of gastrointestinal illness were recorded in sick call over a day or week. The assist visit was requested 4 days after returning to port, when the medical department received word that rectal swabs from five individuals (the most



symptomatic during the deployment) were confirmed as *Salmonella* group D (nontyphi) by laboratories at Sewells Point Branch Medical Clinic and Naval Hospital, Portsmouth.

After the briefing the team broke into their respective specialties. Standard guidelines for the epidemiologic investigation of an outbreak of foodborne disease were used. These included the identification of all cases and their duties, berthing spaces, dietary preferences for foods at high risk of bacterial contamination, and the places meals were eaten. Similarly, "control" persons (those who did not have disease but ate at the same time and places as the cases) were identified.

By comparison of controls with cases, food-specific attack rates could be calculated, and suspected foods could be evaluated for problems in storage, thawing, cooking and holding, and serving. Sick call logs for the previous few months as well as health records of all possible cases were reviewed to determine how long there had been an increase in the number of persons coming to sick call with compatible signs and symptoms.

Secondly, a thorough food service sanitation survey was conducted. This included assessing procedures and practices used in food storage, preparation, and serving areas, evaluating the knowledge and health of mess personnel and looking for deviations from accepted practice, examining scullery procedures, examining the condition of all equipment in these spaces, looking for problems with food items dispensed in nonroutine areas (e.g., ship's stores), and ensuring that there was no contamination of potable water in the ship.

The following information was obtained during the 12-day investigation.

Based on the sick call log review, health record review, initial culture results, and the epidemic potential of a proven pathogen, a case (suspected as intestinal salmonellosis for the purpose of starting the epidemiological investigation) was initially defined as: a person experiencing two or more loose stools in a 24-hour period during the recent underway period, for at least 1 day (other gastrointestinal symptoms were not required to make a diagnosis). During this time period a total of 48 crewmembers (2.2 percent of ship's company) reported to sick call with a diarrheal illness that met the case definition.

All cases occurred among first class petty officers and below. Cases were distributed among all departments, but none were reported from the deployed air squadron personnel. Forty-five of the 48 cases were available for interview and rectal swab; 22 (49 percent) had *Salmonella* in their cultures. Food histories of these 22 individuals were compared to controls. No particular food or drink item at either the aft galley or the forward "speed line" was implicated.

Surveillance for cases of diarrhea was continued from the day after the recent short deployment until the formal on board investigation was completed. All personnel who continued to come to sick call with symptoms meeting the case definition were considered a diarrhea case and cultured for salmonellosis.

Screening rectal swabs were obtained from all available food service, medical, and dental personnel. This was done to determine the extent of salmonellosis among these personnel considered to be at the highest risk for acquiring or transmitting the infection due to their occupations.

Personnel testing positive for *Salmonella* included 4/35 (11.4 percent) in medical and 6/108 (5.8 percent) in food service. None of 13 dental personnel were positive. The six culture-positive food service personnel did not prepare food. Four food service personnel from deployed squadrons were identified and found to test negative.

A total of 42 culture-proven *Salmonella* group D (nontyphi) cases were identified among crewmembers tested during the most recent deployment and during the subsequent investigation. The last known culture-positive cases reported symptom onset 6 days postdeployment. Final attack rates of confirmed salmonellosis by department were:

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Medical	11.4 percent (4/35)
Supply	2.8 percent (14/496)
Deck	1.9 percent (3/155)
Air	1.7 percent (8/470)
Engineering	1.4 percent (7/509)
Marine Detachment	1.4 percent (1/71)
Weapons	1.3 percent (3/232)
Aircraft Intermediate	
Maintenance Department	1.0 percent (2/191)

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As expected, medical and food service personnel within the supply department had the highest rates. These were probably due to the fact that almost all members of each division were cultured; this would have contributed to a relatively high "yield." If other divisions were able to be completely screened, it is likely that their rates would have been higher, also.

The food service sanitation survey revealed several deficiencies in equipment cleaning and maintenance and in food service practices, all of which were corrected. Any one or a combination of them could have had the potential for causing contamination of food items with *Salmonella* organisms.

The potable water system did not show evidence of bacteriological contamination. Cultures were taken from meat slicers, tenderizers, and cutting boards; none were positive for *Salmonella* although there were other contaminant-type organisms.

A total of 263 rectal swabs were plated at the NAV-ENPVNTMEDU No. 2 Microbiology Laboratory. Cultures on all cases were also forwarded to the Naval Medical Research Institute, Bethesda, MD, and tested for pathogens with known association with epidemic foodborne diarrhea; e.g., enterotoxigenic *Escherichia coli*, *Campylobacter jejuni*. All *Salmonella* isolates were serogroup D, nontyphi. Further testing of 18 *Salmonella* isolates revealed that all had a similar antibiotic susceptibility profile. No other organisms were grown which suggested another causative agent.

Plasmid profile analysis(1) of 37 *Salmonella* isolates was performed at the University of Maryland School of Medicine, Baltimore. This method may permit better discrimination among strains than does serotyping, especially for common *Salmonella* serotypes. All isolates were found to have a common plasmid profile, suggesting that the isolates were from a common source. Subsequent serotyping at the Maryland State Health Department identified the isolates as *S. enteritidis*.

In summary, the outbreak of intestinal salmonellosis on board the USS *Ship* was probably due to a continuous source contamination, rather than a one-time single source of contaminated food. No specific food item, galley, mess, or food service procedure was identified as a cause in this outbreak. However, the findings of the food service inspection documented discrepancies in food service practices that could allow food contaminated with bacteria to be served. When these discrepancies were immediately corrected, the outbreak ended.

*Salmonella* organisms are commonly found in cattle and poultry and their slaughter products; raw milk and raw eggs and egg products can harbor *Salmonella* orga-

nisms.(2-4) Thorough cooking and sanitary preparation of food usually kills the bacteria before it can further contaminate the food prior to its serving. However, noncompliance with standard food service facility guidelines allows for food to remain or become contaminated and infective.

Intestinal salmonellosis continues to be a major public health problem and causes numerous individual or clusters of cases of diarrheal disease every year in civilian and military facilities or private gatherings. Reports of outbreaks at sea on cruise ships(5,6) and a British naval vessel (7,8) have been published. Finally, there may be other gastrointestinal pathogens causing illness during a documented salmonellosis outbreak.(9)

This outbreak of diarrheal disease, occurring among a large crew of an operational and strategic seagoing unit, demonstrates that with timely requests for assistance, NAVENPVNTMEDU staff can provide invaluable on-site assessments for a variety of preventive medicine and occupational health problems.

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Dr. Dembert is on the staff of the Navy Environmental Health Center, Naval Station, Norfolk, VA 23511. LT Sorensen, HMI Perez, LCDR Garrigues are on the staff of the Navy Environmental and Preventive Medicine Unit No. 2, Norfolk. CDR Bourgeois is on the staff of the Naval Medical Research Institute, Bethesda, MD 20814. Dr. Morris is with the Division of Geographic Medicine, University of Maryland School of Medicine, Baltimore, MD 21201.



Your July-August 1987 issue of *Navy Medicine* was outstanding in your description of the history of the Navy Dental Corps. It brought a great deal of honor and pride to the many people who have served unselfishly in its ranks. My investigation, however, has revealed that LTJG Weeden E. Osborne, Medal of Honor winner, was indeed a member of the 5th Marines when he sacrificed his life for another, and not 6th Marines as described.

As a dental officer of the 1st Dental Battalion and particularly as that for the 5th Marines at Margarita area dental clinic, Camp Pendleton, CA, I am proud to claim both Navy Dental Corps Medal of Honor winners (LCDR Lyle and LTJG Osborne) were 5th Marines dental officers.

LCDR D.M. Harrigan, DC

Dear Admiral Zimble:

Your recent article: "Turning into the Wind . . . A Time for New Beginnings" (*Navy Medicine*, September-October 1987) touched me in a very significant and personal way. While I was indeed impressed by the overall vision for the future of Navy medicine, I would like to especially express my appreciation for your comment that in our service to the men and women of the Navy and the Marine Corps, "We must administer not only care but *caring*"; that, as it is the "human element" which makes the Navy and the Marine Corps great, so too must "humanity be a part of the greatness of Navy medicine."

In my role as adjunct nurse researcher, Naval Hospital, Bethesda, and as a Navy Nurse Corps reservist, I have the opportunity to interact with a significant number of the hospital's patients and their family members. Feedback in virtually all of my contacts reflects the importance of your position regarding "caring" as a central concept in relation to the provision of health care services. Data generated from our ongoing study examining the nursing needs of long-term ventilator patients, include such comments as: "I never expected to see so much *caring* in a place (the intensive care unit) with all this technology—it really means a lot" (from a family member), and (from a patient) "I know that sometimes the nurses and corpsmen get busy but I know that they *care* and *caring* goes a long way with me."

I also believe that "caring" is one of the primary factors which presently makes and, hopefully, will always make Navy medicine and nursing great. I am most pleased that this concept is identified as a significant component of our profession by the Surgeon General. The watchwords at Naval Hospital, Bethesda are: "Caring Is What We Do Best." It was truly gratifying to learn as we "turn into the wind" that your direction unequivocally supports the continuation of such humanistic health care practice.

LT M.E. O'Brien, NC, USNR-R

Dear COL Jeffries:

I would like to comment on your letter to LCDR Heib (*Navy Medicine*, September-October 1987) in response to his comment on your article entitled "Don't Shoot at the Orange Cross," (*Navy Medicine*, March-April 1987).

Your statement, "The last time a hospital ship was attacked . . . was during World War I," albeit a guess on your part, is incorrect. During World War II, the Japanese made many deliberate attacks upon hospital ships by shelling, strafing, and bombing. During the battle for Okinawa, a kamikaze plane flew into the USS *Comfort* (AH-6) penetrating two decks, injuring 48 persons and killing 28 including 6 Army doctors, an equal number of Army nurses, and 7 patients.

The question as to whether or not Red Cross identification protects hospital ships is an interesting one. The *Comfort*, along with her sister ships in the Pacific, was painted with red crosses and green stripes. The Japanese, however, did not sign the Geneva Convention. Early in WWII, Pacific hospital ships also maintained nighttime illumination which made them "persona non grata" to a fleet which was trying to hide from the enemy. Consequently, they traveled along arriving at a battle about 2 or 3 days after the landing. Later, in the Pacific Campaign when it became apparent that they were considered targets, they stopped the illumination and stayed closer to the fleet. In contrast, the Atlantic Fleet hospital ships were painted grey with no distinguishing marks at all.

In Vietnam, the hospital ships maintained Red Cross identification and nighttime illumination but since the enemy had no air capability, it is hard to say if that made any difference. Nevertheless, the ships stayed out of mortar range as much as possible and took the possibility of mine warfare very seriously.

The Falklands Conflict is absolutely fascinating in the way both sides honored the Geneva Convention and co-operated with the International Committee of the Red Cross. Such a "gentleman's war" has not been seen in many years and is unlikely to be seen again.

Still, I agree with your position that there is little to be gained from removing the Red Cross identification. Even though it may provide dubious protection, it serves as an important symbol and reminder of the mission of military medicine.

CAPT S.A. Ross, NC

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